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# PROJECT LEARNING THROUGH PROJECT HISTORIES<sup>1</sup>

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## INTRODUCTION

Many people and organisations continually repeat mistakes or fail to take advantage of opportunities because they have not learned from their past history, frequently as a result of not having taken the time to reflect and take stock of their experiences. This common error is avoidable, particularly with today's capacity for information and communication technology (ICT) to enable organisations to not only record lessons learned but to easily make these available throughout an organisation. Moreover, the evidence of the literature and experience suggests that currently companies do not rigorously analyse past experience and log lessons learned using manual methods so it is hardly surprising that this trend is not changed by the availability of ICT.

For most organisations, project histories comprise boxes of files containing monthly project control reports, handwritten foremen's daily site diary, an array of correspondence in difficult to retrieve and poorly indexed files, and anecdotal tales bordering on myths of the circumstances leading up to a range of unfolding disputes between project parties. What is frequently missing is a coherent system that gathers and archives key project history data including contextual information that can be later used to make sense of problematic solutions or opportunities, innovations tested and evaluated and analysis of the course of development of project team relationships. What is needed is a system for organisations learning from experiments and experience through a system of developing project histories and evaluating and measuring often ephemeral incidences. These experiences and valuable knowledge assets need to be generated, validated and maintained in a manner that allows retrieval, transfer and future re-analysis. There needs to be a strategic plan to capture existing knowledge and use processes and technology to make this more widely and readily available for re-use when required.

Innovative organisations in the construction industry, however, have responded to the proliferation of ICT by encouraging the development of project histories in some coherent shape or form. We found evidence of this on at least three case studies that we undertook on major contractors with annual turnovers over one billion Australian dollars plus. These repositories contain detail knowledge deemed important from previous projects. This data, used by personnel involved in project proposals and the tendering for new projects, is developed, refined and provides realistic estimating information.

Project management methodologies such as Prince 2 emphasises that the key project completion procedure of project debriefing (or project audit) provides a means of capturing project histories (Bentley 1997). There is, however, a gap between the perceived value of a project debriefing and its actual achievement. Knowledge and experiences gathered in different projects are not being systematically and successfully integrated into organisational knowledge bases (Schinder and Eppler, 2003).

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## PROJECT HISTORIES DEVELOPMENT TECHNIQUES

Where project histories have been captured, the detail that forms part of the project histories is obtained through a variety of debriefing techniques. Schinder and Eppler (2003) have classified these techniques into two groups, process-based methods, and documentation-based methods. However, we could also add tacit knowledge transfer by teams and individuals through effective communities of practice (Jewell and Walker, 2004).

Table 1: Process-based Methods for History Collection  
(Schindler and Eppler, 2003)

Parameter	Method			
	Project Review/Project Audit	Post control	Post-project Appraisal	After Action Review
Time of execution	After project completion or in the course of the project during individual project phases	Exclusively at project's end	Approximately two years after project completion	During work process
Carried out by	Review: moderators respectively auditor Audit: project-external people	Project manager	External post-project appraisal unit (a manager and four assistants), project homework group	Facilitator
Participants	Project team and third parties that are involved into the project	Project manager (inclusion of project team not neglected)	Project team and third parties that are involved into the project	Project team
Purpose	Status classification, early recognition of possible hazards, team-internal focus	Serves as delimitation/in addition to a more formal project end that focuses on the sole improvement of future project's goal conformity Result is a formal document, which considers the ranges of aims of the project, quantitative goals, milestones, check points and budget goals and Contains an evaluation of the project result as well as a recommendation for future improvements	Learning from mistakes, knowledge transfer to third parties	Learning from mistakes, knowledge transfer inside the team
Benefits	Improvement of team discipline, prevention of weak points and validation of strategies		Best practice generation for large-scale projects, improvement of forecasts and proposals	Immediate reflection of the own doings to improve future actions

Interaction mode	Face to face meetings	Non-cooperative form of recording experiences, analysis of existing project status reports, milestones, checkpoints and budget targets are being compared in order to identify relevant backgrounds of differences between estimated and actual effort	Document analysis, face to-face-meetings	Cooperative team meeting
Codification	Partly in reports, usually no predefined circulation with knowledge transfer as a primary goal (excluding predefined distribution lists)	Partly in reports, usually no predefined circulation with knowledge transfer as a primary goal (excluding predefined distribution lists)	Booklets	Flip charts

The process-based methods illustrated in Table 1 gather lessons-learned from the completed projects. These are the methods associated with approaches that include: Project Review/Project Audits, Post-Control, Post-Project Appraisal, and After Action Reviews. The documentation-based methods collect project experiences as soon as they occur. Techniques using this approach include: Micro Articles, Learning Histories, and RECALL. Table 2 illustrates the variation between these techniques.

Table 2: Document-based Methods for History Collection  
(Schinder and Eppler, 225, 2003)

Parameter	Method		
	Micro Article	Learning Histories	RECALL
Scope	Between half and one page	Between 20 and 100 pages	Several screens
IT-support	Possible but not required, unless multimedia is used	Not required	Mandatory (database interface)
Participants	Not explicitly stated, focus one author	Individuals and teams depending on the process step	individual user
Supported by dedicated roles	Author, reviewer	Learning historian necessary for all process steps	Working group for reviewing
Frequency	On demand, regularly	Maximum once per project: after completion	On demand
Anonymity	No	Yes	No
Embedding/distribution	Paper-based, databases/intranet	Cases with accompanying workshops	Databases/intranet.

## ROLE OF PROJECT LEARNING AND HISTORIES IN ORGANISATION TRANSFORMATION TOWARDS A LEARNING ORGANISATION

The model shown in Figure 1 explains the transformation of the organisation over time by illustrating organisational learning. It shows three transformation stages that are indicative of the continuous transformation process.

The model specifically shows a typical organisation and the sources of knowledge external to it are referred to as an External Knowledge Bank. This knowledge bank or repository may consist of output from academic institutions and research centres that are dedicated to the

production and discussion of technological knowledge. This can take the form of new innovative processes, products and technologies as well as training and educational development of people to utilize these processes. In addition, this knowledge bank also consists of other external knowledge that flows as a result of social interaction of the organisation with other organisations in a supply chain. This external knowledge bank increases over time.

An interface is conceptualised in this model to exist between the organisation and external knowledge sources. This interface operates under the influence of two main forces - visualized as “pulling” and “pushing” forces. Push is exerted from the external knowledge sources towards organisation to adopt new knowledge, whereas pull refers to the drawing-in force exerted by the organisation to obtain the knowledge from the sources external to it. The distance between the external knowledge source and the organisations is an indication of gaps that exist between external knowledge and its adoption by the organisation. An example is the gap that exists between academic research and actual practice in industry.

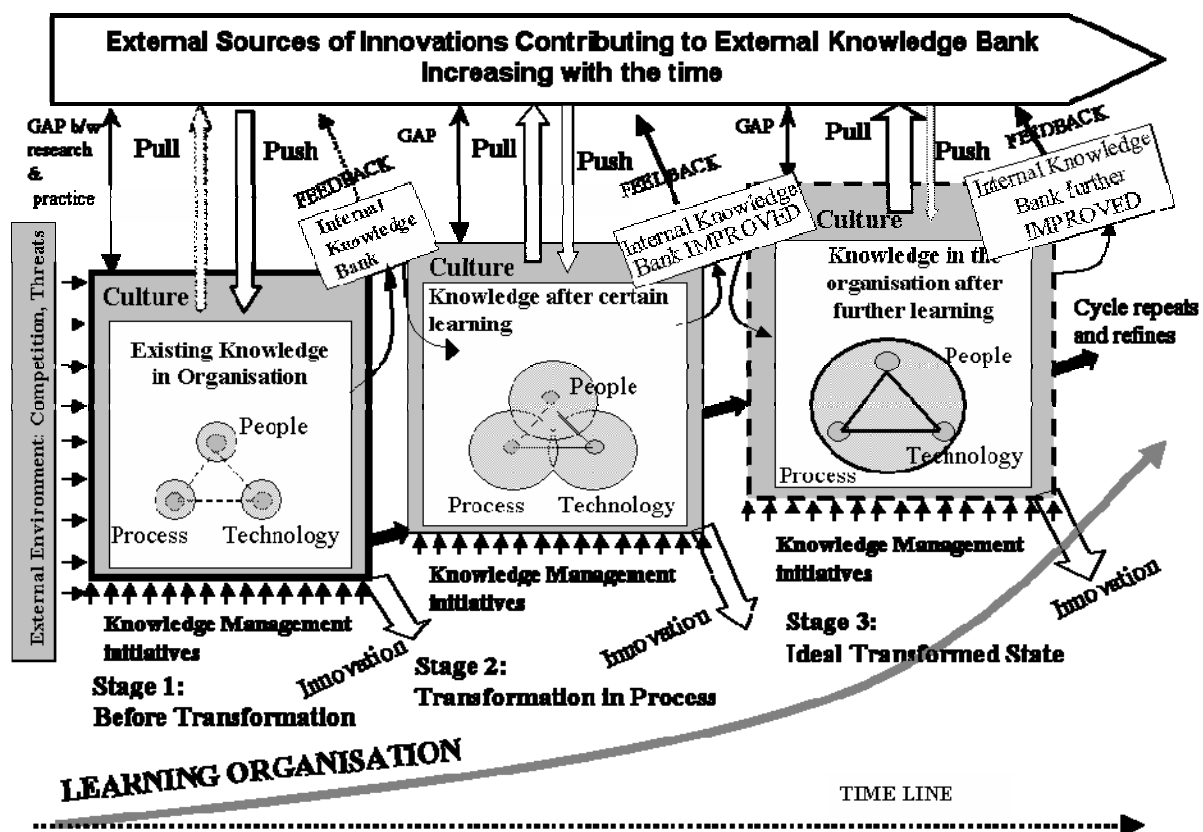


Figure 1: Integrated knowledge management, organisational learning and Innovation model (Maqsood and Finegan, 2003).

The important aspect that this model depicts is the role that an internal knowledge bank plays in transforming the organisation. The model makes the assertion that a knowledge management initiative and implementation in the organisation would help develop an ‘internal knowledge bank’. This in turn will promote an organisational transformation to progress up the learning curve. At the initial stage of the model, this internal knowledge bank is very weak and less detailed. However, the model assumes that it will improve over time. At the initial stage people, processes and technology are poorly integrated to allow knowledge to flow easily. Indeed there may well be incompatibilities that force discontinuities between these interfaces. The internal knowledge bank can include project histories as an important

asset. As an organisations uses its knowledge assets more wisely and effectively, including learning histories, the people, process and technology interfaces become more blurred and integration takes place that improves knowledge flow. One outcome of the improvement that takes place is that experimentation and learning from experience triggers more innovations to be developed and other experiments and pilot schemes trialled. Also the boundary between the organisation and its influencing external environment becomes more porous so that new ideas have a better chance of being considered and adopted. Finally, the organisation that has effectively learned from its past and has mastered the act of constantly experimenting and innovating develops a permeable boundary between it and its influencing environment. It has knowledge to offer and thus is more effective at pulling ideas from outside its boundaries and its people, process and technology is fully integrated and allows seamless knowledge transfer.

## CONCLUSIONS

We discussed in this paper the role of project histories in facilitating a transformation of the organisation into a learning organisation through knowledge management. We argue that knowledge management implementation should give project histories an importance of strategic concern. Knowledge management places very high emphasis on the creation and management of project histories and views it as a medium through which “tacit” turned “explicit” knowledge of the individuals can be disseminated and shared through out the organisation. Under this knowledge management process, the structure of the project histories can vary. However, this was beyond the scope of this study. The next stage of the broader research project (a PhD project) is to further investigate the shape and structure of project histories in order to synchronise these with the aims and objective of knowledge management philosophy. Specifically, we need to trial formats and ways in which these histories would be created, archived and retrieved and used in problem solving or identifying how best to capitalise best on identified opportunities.

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